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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,217	01/24/2001	Bengt Gustav Lofmark	2739-4	2309
23117	7590	10/17/2007	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			SINGH, RAMNANDAN P	
ART UNIT	PAPER NUMBER			
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/768,217	LOFMARK, BENGT GUSTAV	
	Examiner	Art Unit	
	Ramnandan Singh	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on Aug 03, 2007 & Apr 30, 2007.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1,4-21,23 and 25-39 is/are pending in the application.  
 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,4-18, 23 and 25-39 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date: _____	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 4-18, 23, 25-39, drawn to a filter for filtering signals in a telecommunications system, classified in class 379, subclass 402, 403, 398.

II. Claims 19-21, drawn to a method for designing a filter, classified in class 379, subclass 390.04, 391, 390.01, 394.

2. Applicant's response filed on Aug 03, 2007 confirmed the election of Group I consisting of claims 1, 4-18, 23 and 25-39. As a result, claims 19-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Hence, this restriction is made FINAL.

***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed on Jan. 24, 2001.

***Drawings***

4. The drawings are objected to because Figure 14 is NOT in English. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the

top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The abstract of the disclosure is objected to because the abstract is not in a single paragraph. Correction is required. See MPEP § 608.01(b).

***Claim Objections***

7. Claims 4, 12, 23 and 33 are objected to because of the following informalities:

Claim 12 recites the limitation "ETSI impedance". The use of acronym "ETSI" in claim is improper. Spell out the full word it stands for. Similarly, claim 33 is also objected to for the reason stated above.

Claim 4 recites the limitation "with a second,". This is in error. Replace the term "with a second" with the term "with a second **resistance**".

Claim 23 recites the limitation "which resistance is chosen **such that**" **such that** said resistance in series with said inductance " in lines 7-

8. Delete the term "such that".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 4-18, 23, 25-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is an apparatus claim which does not have a transitional phase, such as, "comprising:" or "consisting of:" for transitioning from a preamble to limitations. After the transitional phase, the apparatus claim must have: component #1, component #2, ..., component #N.

Claims 4-18 being dependent from claim 1 are also rejected.

Claim 23 is a method claim which does not have a transitional phase, such as, "comprising the steps of:" for transitioning from a preamble to limitations. After the transitional phrase, the method claim must have: action #1, action # 2,...,action # M. Claims 25-39 being dependent from claim 23 are also rejected.

Further, the term "approximately" in claim 1 is a relative term which renders the claim indefinite. The term "approximately" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be

reasonably apprised of the scope of the invention. Similarly, claim 23 is rejected for the reasons stated in claim 1 above.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 11, 23 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Jakab [US 4,982,426].

Regarding claim 1, Jakab discloses a filter (32) for filtering signals in a telecommunications system and for impedance matching to a predetermined complex impedance (38), as shown in Fig. 4, the filter comprises at least one first pass band (i.e. low-pass), and wherein the filter is passive, and the characteristic impedance of the filter is complex so that it matches the predetermined complex impedance at least approximately,

and wherein a resistance (36) of at least one (44) of the filter components , the resistance being chosen such that the resistance in series with the at least one inductance (44) assists in giving the filter the complex impedance characteristic impedance [Figs. 2-4; col. 4, lines 53-63; col. 5, lines 26-58; col. 5, line 59 to col. 6, line 8; col. 6, line 50 to col. 8, line 4; col. 1, lines 7-18],

Claim 23 is essentially similar to claim 1 and is rejected for the reasons stated above.

Regarding claim 11, Jakab further disclose the filter arrangement , wherein the predetermined complex impedance is the characteristic impedance of a transmission line [Fig. 4].

Claim 32 is essentially similar to claim 11 and is rejected for the reasons stated above.

12. Claims 1, 11, 15-17, 23, 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Williamson et al [EP 0 923 221 A1].

Regarding claim 1, Williamson et al disclose a filter arrangement, as shown in Fig. 7A, for filtering signals in a telecommunications system and for impedance matching to a predetermined complex impedance, the filter comprises at least one first pass band (i.e. low-pass), and wherein the filter is passive [Fig. 7A], and the characteristic impedance of the filter is complex so that it matches the predetermined complex impedance at least approximately [Para: 0035; 0038], and wherein a resistance of at least one of the filter components, the resistance being chosen such that the resistance in series with the at least one inductance assists in giving the filter the complex impedance characteristic impedance [Figs. 7A; Para: 0011-0013; 0035; 0037-0041; 0044; claims 1-2; 11-12].

Claim 23 is essentially similar to claim 1 and is rejected for the reasons stated above.

Regarding claim 11, Williamson et al further disclose the filter arrangement, wherein the predetermined complex impedance is the characteristic impedance of a transmission line [Para: 0038].

Claim 32 is essentially similar to claim 11 and is rejected for the reasons stated above.

Regarding claim 15, Williamson et al further disclose the filter arrangement , wherein the filter is a low-pass filter (A) [Fig. 7A].

Claim 31 is essentially similar to claim 15 and is rejected for the reasons stated above.

Regarding claim 16, Williamson et al further disclose the filter arrangement , wherein the filter includes a further pass band in a predetermined frequency range (B), the further pass band differing from the at least first pass band (A) [Fig. 7A].

Regarding claim 17, Williamson et al further disclose the splitter filter , which includes at least one filter [Fig. 7A].

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 4-10, 12-14, 18, 25-30 and 33-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williamson et al as applied to claim 1 above.

Regarding claim 4, since Williamson et al disclose various circuit arrangements of the splitter filter including series and parallel arrangements, as shown in Figs. 1, 3, 6, 7A-7B, 8, 9A-9B, 11-13 [Para: 0042-0049; 0051-0055], it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to arrange the filter as claimed in claim 4 as an alternate filter arrangement subject to circuit, system and design constraints.

Similarly, claims 5-10, 12-14, 18, 25-30 and 33-39 are also rejected for the reasons stated as above.

***Response to Arguments***

15. Applicant's arguments filed on Apr 30, 2007 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- (i) Williamson et al [US 6,477,249 B1] disclose a communication signal splitter [Whole document];
- (ii) Moore [US 5,770,982] discloses a method for matching the impedances of a filter with a matching network [Abstract, lines 8-12; col. 1, lines 12-54; col. 5, line 58 to col. 6, line 11; Figs. 9-11; col. 7, line 34 to col. 8, line 6; claims 10, 16]; and
- (iii) The Radio Amateurs Handbook;1973 , Pub: American Radio Relay League; Pages 41-50.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose

telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh  
Primary Examiner  
Art Unit 2614

